

GMBT3838 NPN EPITAXIAL PLANAR TRANSISTOR

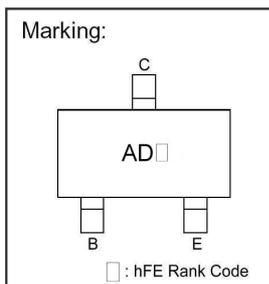
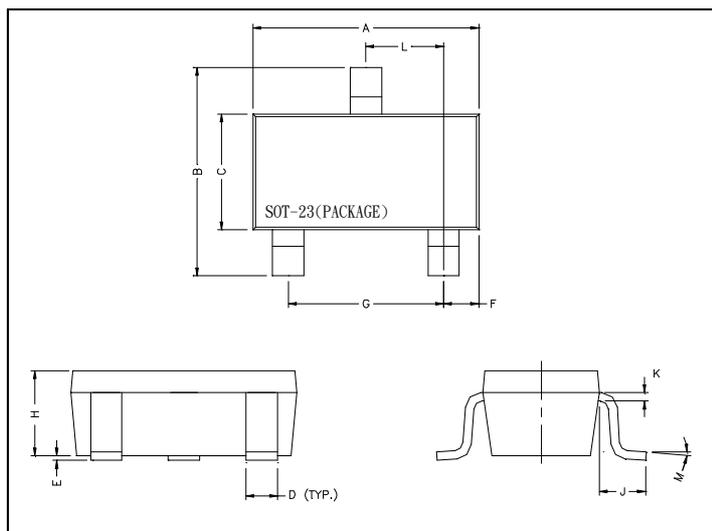
Description

The GMBT3838 is designed for high frequency amplifier transistor.

Features

- High transition frequency
- Small r_{bb}' -Cc and high gain
- Small NF

Package Dimensions



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.70	3.10	G	1.90	REF.
B	2.40	2.80	H	1.00	1.30
C	1.40	1.60	K	0.10	0.20
D	0.35	0.50	J	0.40	-
E	0	0.10	L	0.85	1.15
F	0.45	0.55	M	0°	10°

Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Ratings	Unit
Junction Temperature	T_j	+150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55~+150	$^\circ\text{C}$
Collector to Base Voltage	V_{CB0}	20	V
Collector to Emitter Voltage	V_{CEO}	11	V
Emitter to Base Voltage	V_{EBO}	3	V
Collector Current	I_C	50	mA
Total Power Dissipation	PD	200	mW

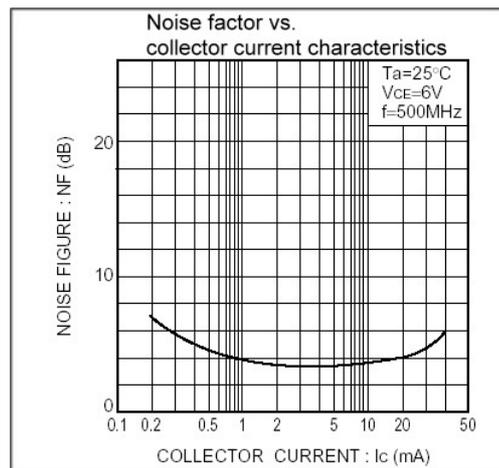
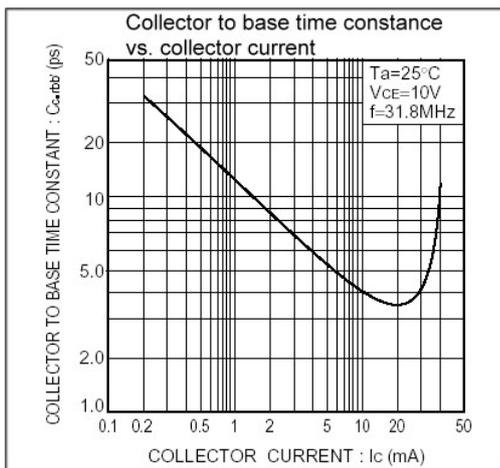
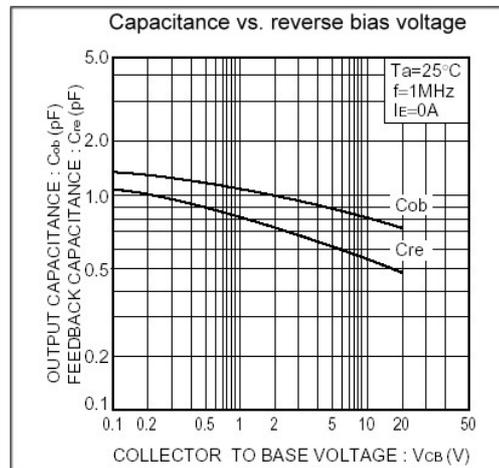
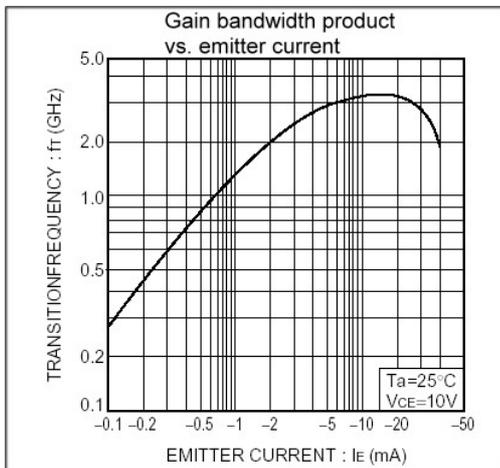
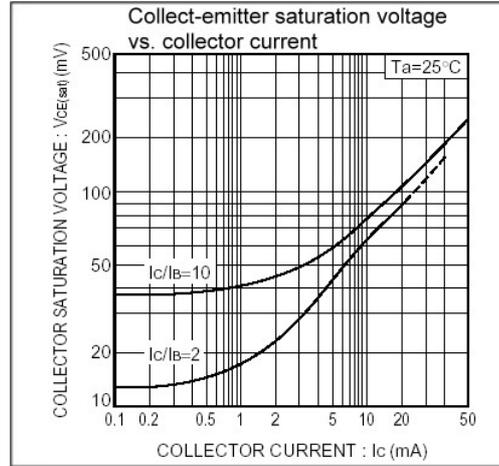
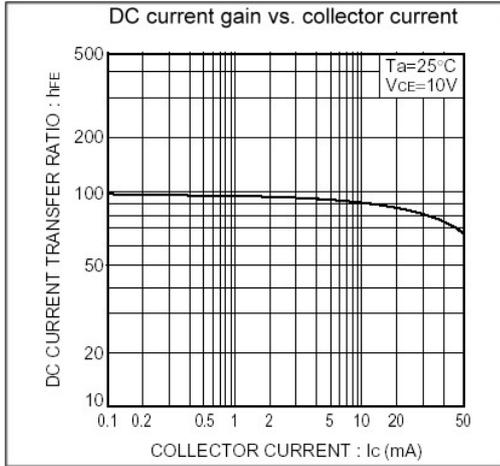
Electrical Characteristics ($T_a = 25^\circ\text{C}$, unless otherwise noted)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
V_{CB0}	20	-	-	V	$I_C=10\mu\text{A}, I_E=0$
V_{CEO}	11	-	-	V	$I_C=1\text{mA}, I_B=0$
V_{EBO}	3	-	-	V	$I_E=10\mu\text{A}, I_C=0$
I_{CBO}	-	-	500	nA	$V_{CB}=10\text{V}, I_E=0$
I_{EBO}	-	-	500	nA	$V_{EB}=2\text{V}, I_C=0$
$V_{CE(sat)}$	-	-	500	mV	$I_C=10\text{mA}, I_B=5\text{mA}$
hFE	56	-	400		$V_{CE}=10\text{V}, I_C=5\text{mA}$
fT	1.4	3.2	-	GHz	$V_{CE}=10\text{V}, I_E=10\text{mA}, f=500\text{MHz}$
Cob	-	0.8	1.5	pF	$V_{CB}=10\text{V}, f=1\text{MHz}$
rbb-Cc	-	4	12	ps	$V_{CB}=10\text{V}, I_C=10\text{mA}, f=31.8\text{MHz}$
NF	-	3.5	-	dB	$V_{CE}=6\text{V}, I_C=2\text{mA}, f=500\text{MHz}, R_g=50\Omega$

Classification Of hFE

Rank	A	B
Range	56 ~ 220	200 ~ 400

Characteristics Curve



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